

particular, newly added claims 35-41 find support on pages 34-36 and 67-69 of the specification and in the claims as originally filed. No new matter has been added by the above amendments. Applicants reserve the right to pursue the previously pending claims in continuing or divisional applications without prejudice or disclaimer.

Applicants respectfully request reconsideration and the timely allowance of the pending claims. A favorable action is awaited.

Response to the rejection under 35 U.S.C. § 112, second paragraph

Claims 7-9, 11, 14 and 15, were rejected under 35 U.S.C. § 112, second paragraph, because the claims were purportedly indefinite in their recitation of "containing" with regard to a nucleic acid sequence. Claims 7-9, 11, 14 and 15 are newly canceled. Newly added claims 35-41 have been drafted as to not include the term "containing". As such, this rejection is moot.

Claim 15 was deemed indefinite in that it allegedly failed to limit the claim from which it depended. Claim 15 has been canceled, as such this rejection is moot.

Response to the rejection under 35 U.S.C. § 112, first paragraph

Claims 8, 11, and 15-16 were rejected under 35 U.S.C. § 112, first paragraph, for allegedly being directed to subject matter that was not described in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention. Claims 8, 11, and 15-16 are newly canceled. As such, this rejection will be addressed as it applies to newly added claims 35-41.

The Examiner contends that the specification does not describe the structural changes that could be made, other than removal of one or more histidine residues, to a fatty acid desaturase which would result in a dominant negative mutant and therefore the specification does not adequately describe the claimed invention. Applicants respectfully disagree. The specification of the instant application fully describes the claimed invention in such terms that one of skill in the art would immediately recognize that the Applicants had the claimed invention in their possession at the time the application was filed. Newly added claims 35-41 are directed to methods of altering the amount of an unsaturated fatty acid in a seed of a plant by decreasing a fatty acid desaturase activity by transforming the plant with nucleic acids encoding catalytically

inactive fatty acid desaturases. The Examiner's attention is respectfully directed to page 68, lines 11-20 of the specification where the Applicant describes that the instant invention is drawn to method of altering desaturase activity through the expression of catalytically inactive forms of desaturases and that dominant negative mutants are simply one embodiment of this invention. Upon reading this portion of the specification, one of skill in the art would recognize that the Applicants had invented a method of altering desaturase activity through the expression of catalytically inactive forms of desaturases. Further, given the state of the art at the time of the invention and the fact that methods of producing of dominant negative mutants were known in the art, development of catalytically inactive desaturases are well within the capabilities of the skilled artisan. Thus, given the description in the specification and the state of the art at the time of filing, one of skill in the art would clearly recognize that the Applicants were in possession of the claimed invention at the time the application was filed.

Claims 8, 9, 11, and 14-16 were rejected under 35 U.S.C. § 112, first paragraph, for containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains to make and/or used the invention.

Claims 8, 11, and 15-16 are newly canceled. As such, this rejection will be addressed as it applies to newly added claims 35-41.

The Examiner contends that because the specification does not provide examples that a plant has been transformed with a sequence encoding a dominant negative mutant of a fatty acid desaturase and allegedly does not identify sequences encoding a dominant negative mutant of a fatty acid desaturase, the claimed invention is not enabled. The Examiner also contends that there is an inherent unpredictability in identifying dominant negative mutants of fatty acid desaturases and in methods of decreasing fatty acid desaturase activity in plants and cites DeLuca et al. in support of this contention. The Applicants respectfully disagree.

Newly added claims 35-41 are directed to methods of altering the amount of an unsaturated fatty acid in a seed of a plant by decreasing a fatty acid desaturase activity by transforming the plant with nucleic acids encoding catalytically inactive fatty acid desaturases. The production of transgenic plants was well known in the art at the time the instant application was file. Further, on pages 56-59 of the specification, Applicant teaches general methods of producing transgenic plants comprising genes which alter fatty acid biosynthesis in plants. On

pages 68-69, Applicant further teaches methods of altering desaturase activity through the expression of catalytically inactive forms of desaturases and that dominant negative mutants are simply one embodiment of this invention. With regards to the Examiner's citation of DeLuca et al., Applicants respectfully direct the Examiner's attention to page 34-36 of the specification which generally teaches that methods of altering fatty acid content in plants does not have the inherent unpredictability upon which the Examiner relies in the instant rejection. Furthermore, applicants respectfully point out that compliance with the enablement requirement does not turn on whether an example is disclosed, the specification need only disclose the invention in such a manner that one skilled in the art would be able to practice the invention without an undue amount of experimentation. *In re Borkowski*, 422 F.2d 904; 164 USPQ 642 (CCPA 1970). Thus, given the teaching of the specification and the high level of skill in the art one of skill in the art would be able to practice the claimed invention.

Response to the rejection under 35 U.S.C. § 102 (e)

Claims 1, 7, and 10 were rejected under 35 U.S.C. § 102(e) purportedly for being anticipated by Lightner et al. (U.S. Patent 6,372,965). Claims 1, 7, and 10 are newly canceled. As such, this rejection will be addressed as it applies to newly added claims 35-41.

The Examiner contends that Lightner et al. teaches a method of altering the amount of an unsaturated fatty acid in a seed of a plant by decreasing a fatty acid desaturase activity by genetic manipulation of a fatty acid desaturase, including by introducing a recombinant construct comprising a nucleic acid sequence encoding a fatty acid desaturase into soybean.

Newly added claims are directed to methods of altering the amount of an unsaturated fatty acid in a seed of a plant by decreasing a fatty acid desaturase activity by transforming the plant with nucleic acids encoding catalytically inactive fatty acid desaturases. Applicants respectfully submit that the cited patent does not anticipate the invention of the instant claims. The cited patent teaches methods of decreasing fatty acid desaturase by transforming plants with a desaturase in antisense orientation or in sense orientation. The patent does not teach or suggest transforming plants with a nucleic acid encoding a mutant form of a desaturase that is catalytically inactive. As such, Lightner et al. do not anticipate the claimed invention.

Conclusion

The foregoing amendments and remarks are being made to place the application in condition for allowance. Applicants respectfully request reconsideration and the timely allowance of the pending claims. A favorable action is awaited. Should the Examiner find that an interview would be helpful to further prosecution of this application, she is invited to telephone the undersigned at his convenience.

If there are any additional fees due in connection with the filing of this response, please charge the fees to our Deposit Account No. 50-0310. If a fee is required for an extension of time under 37 C.F.R. 1.136 not accounted for above, such an extension is requested and the fee should also be charged to our Deposit Account.

The Examiner is requested to contact the undersigned if there are any outstanding issues.

Respectfully submitted,

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS

Claims 1,7-11 and 14-16 have been cancelled

New claims 35-41 have been added.